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ABSTRACT

Economic educators recognize the importance of a global perspective, at least in part because the international sector has become more important over the past few decades. The application of economic principles calls into question some assumptions that appear to be common among members of the global education movement. That these assumptions might be erroneous raises questions about the instructional strategies and materials used in some social studies classes. Explored in this paper are three assumptions that are often made by global educators and that are erroneous. First, consideration is given to the apparent emphasis on what is referred to as the "zero-sum" assumption. Second, the implicit assumption of the weakness of incentives is examined. Finally, the paper challenges the assumptions leading to the persistent use of trend lines as a device for forecasting the future. (BZ)

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Economic Analysis and Assumptions in Global Education

by

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the annual meeting of the
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Economic Analysis and Assumptions in Global Education

Introduction

The need for a global perspective on many of the issues confronting the world on the threshhold of the 21st century is something on which those in the economic education and global education movements can agree. However, on some issues the respective groups seem to have very different viewpoints. In this paper the writer argues that economic theory and research challenges some of the assumptions common among global educators and suggests that the use of economic principles and concepts could enhance instruction in global education.

The paper explores three assumptions that the author believes are often made by global educators that are erroneous. First, consideration will be given to the apparent emphasis on what will be referred to as the "zero-sum" assumption. Second, the implicit assumption of the weakness of incentives is examined. Third, the paper will challenge the the assumptions leading to the persistent use of trend lines as a device for forecasting the future, as seems to be common in much of the literature on which some global educators base their instruction. Finally, by extension it is argued that greater emphasis on economics can result in more effective and realistic instruction on global issues.

One point should be made. The author has made no attempt to survey the attitudes of people who identify themselves as global educators to determine how widely held are the views discussed in this paper. Nor is it contended that every individual in the global education movement entertains all of the assumptions. Rather, the paper suggests that these assumptions turn up in the writing and instructional materials of scholars and teachers in the global education movement often enough to warrant concern.

The Zero-Sum Assumption

If there were a pizza in a room with eight people, all of whom would like as much of the pizza as possible, there is no way that any individual can receive a larger portion of the pizza without it coming at the expense of someone else. A gain by one person is offset by a loss for another person such that the net change in benefits is zero. Similarly, at a poker game the winners benefit at the expense of the losers. Such situations have been dubbed "zero-sum" precisely because gains and losses sum to zero.

Some of the work by global educators suggests that they regard the global economic system as a zero-sum game in which increases in the standard of living by people in certain countries must be a result of (or, at least, result in) decreases in the material well-being of people in other countries. Under this assumption, it is axiomatic that the wealthier Northern Hemisphere profits at the expense of the relatively poorer inhabitants of the south. Concern can be focused on the disproportionate consumption of "the world's" resources by the nations with higher standards of living. The issue of third world development quite naturally becomes centered on redistribution of existing goods and services or economic resources. Under this assumption, one could argue that individuals in the developed world must be made to understand that they must lower their material expectations and learn to make do with less.

At first glance, there seems to be support for this assumption from economics. For instance, it is true that the basic proposition of economics is that resources are scarce. Accordingly, a large portion of the work in the discipline is devoted to investigating how individuals and groups make choices under conditions of scarcity. It is also true that the fundamental economic concept of opportunity cost means that the cost of using any scarce resource is the lost opportunity to employ that resource in its next best alternative use. Therefore, the use of a resource comes at the cost of using it in another way.

This argument is frequently employed in situations where resources are fixed, such as in debating how a budget should be allocated.

However, much of the theory and research in economics has dealt with how to mitigate the problems of scarcity by increasing the resources available and using them more effectively. To the economist, the world of production, distribution, and consumption need not be a zero-sum proposition, especially in the long run. Of the many economic concepts that bear upon this point, two will be illustrated by examples here.

First, economists posit that voluntary exchanges occur precisely because the parties in the exchange expect to benefit from the transaction. This simple but powerful idea implies that, even given fixed resources, exchanges can result in net benefits. Using a homely example, a baseball team that is rich in outfielders might trade one to another team for an infielder. Even though the statistics (batting average, runs batted in, and so forth) seemingly show the outfielder to be the better player, the trade takes place because the teams involved in the trade value the two players differently. Both sides expect to benefit or the trade would not take place. The trade can generate greater total benefits, a positive-sum situation. The key is in having a system that allows resources to be freely and voluntarily traded so that they can be employed in more valuable ways. This is one of many economic ideas that show how we can get more from existing resources.

Second, in the long run, resources are not fixed. The most obvious examples are capital goods (machines) and human capital (knowledge). The Apple IIc on which this paper was written is a case in point. It presumably allows the author to produce more in less time due to a machine that was developed by greater human knowledge and did not exist a few years ago. Human knowledge also "creates" new natural economic resources. Throughout history humankind has

found ways to employ natural resources that previously were not economic resources in any meaningful sense. Oil was originally used in small amounts as part of elixirs or tonics. Figuring out how to use the black stuff as energy came later. Until then, it was hardly considered a significant resource. For many years natural gas was burned off at the wellhead as a nuisance that unfortunately (in the eyes of oil producers of the time) was present every time oil was discovered. In time, the technology was developed that turned natural gas into an important resource.

To sum up, economics shows that, since resources are not fixed, neither is the size of the economic pie. The world's material output has grown and can continue to grow. It is not a zero-sum game. The zero-sum assumption implies a pessimistic future of fighting over the existing pie. An economic perspective implies a more hopeful view of rising standards of material well-being. Finally, this assumption may have led global educators to concentrate on distributional issues. While there might well be other reasons why one might wish to investigate questions of distribution, assuming fixed output should not be one of them. Economic analysis shows that global education should be equally concerned with economic growth and development.

The Weakness of Incentives

As noted earlier, at least some of the global education material appears to assume that the major global economic issues are largely problems of distribution; that there is a fixed economic pie that must be divided up differently (perhaps more equitably). Furthermore, there are those in global education who seem to have accepted the view that there is a looming resource crisis, as finite natural resources are consumed far more rapidly than they are restored by nature. After all, there is only so much oil on the planet. These

viewpoints contain a hidden assumption: that economic incentives are unimportant.

Consider the distribution issue. Economists are quick to point out that nations that consume more also produce more. Indeed, economics teaches that production and consumption are inextricably linked. The world's material output is not a gift that can be distributed however one chooses. The individuals responsible for producing these goods and services do so under the expectation that producing will lead to consumption. If economic theory is correct, removing consumption as the incentive to produce will lead to a commensurate reduction in production. The size of the world's economic pie will fall, a minus-sum game. Underestimating the power of economic incentives can lead to discussion of redistributional schemes that economics predicts have no chance of working.

Is economic theory correct? The evidence of the power of economic incentives from around the globe is persuasive. The Chinese are searching for ways to inject incentives into their economic system. The moribund Soviet economy can, in the view of many observers, only be put on track by following the Chinese example. The disparity in the material well-being of Western Europe compared to the Warsaw Pact nations is not a coincidence. Consider the difference in the post-war recovery of East and West Germany. Evidence is accumulating that African regimes that have destroyed incentives to produce have suffered severely in the production of goods and services (World Bank, 1985, p.54). Recent economic evidence indicates that, in Africa, food aid combined with price controls have wrecked the indigenous agricultural system by putting local farmers out of business. Evidence and theory point to the conclusion that incentives are important to production.

The evidence from the late "energy crisis" provides an excellent example of both the power of economic incentives and how ignoring them leads to erroneous

conclusions about resource crises. Newsweek devoted much of its July 16, 1973 issue to the energy crisis and carried the dire prediction that America's crude oil would last 8.7 more years; natural gas, 10.7. National Geographic printed a special issue on energy in 1981, and carried expert forecasts of looming energy shortages and $4 per gallon gasoline by 1985. Materials sold nationally for teachers to use with students contained the shocking news that the world would be out of oil by the mid-1980s and out of natural gas by the early 21st century.

These predictions were wildly off the mark. Those making the predictions failed to appreciate the effects of economic incentives on human behavior. Economists knew perfectly well that a cartel was restricting the supply of oil in order to extract a higher price. That was bad enough. However, that action alone did not produce the appearance of an energy crisis. It took price controls to manage that feat.

Economics demonstrates that if a maximum price for any commodity is set below the market equilibrium price, the result will be a shortage. At the maximum price, buyers want more than suppliers are willing to produce. The price controls on both oil and natural gas created a shortage by discouraging the incentives that higher prices provide to produce more and to buy less. The removal of price controls unleashed economic incentives and the "crisis" was soon over. The lifting of controls had the additional salutory effect of putting OPEC under pressure. As economic theory predicted, eventually OPEC members began to cheat on their agreements, cutting prices in an attempt to sell more. Today, gasoline costs less per gallon (corrected for inflation) than in 1970.

This is not the first time that people have ignored the powerful effects of incentives in altering behavior. Maurice and Smithson (1983) recount the stories of the many resource crises that never delivered the predicted disaster: America-- crude oil in the 1920's (1926, only a seven year supply left), rubber

during WWII. whale oil in the mid-1800s, timber at the beginning of the 20th Century; England-- timber in the 1500s: Ancient Greece-- timber...again, and before that, bronze. In each case, there were dire predictions of catastrophe due to the impending end of some "finite" resource. In each case the predictions failed to take account of basic economic incentives.

If the world were truly "running out" of an economic resource, its relative price would rise continuously over time, reflecting the increasing scarcity of the commodity. The rising price would force buyers to curb consumption and shift to substitutes. Whoever buys the last barrel of oil had better want it pretty badly because it is going to be mighty expensive.

To the extent that global educators ignore economic incentives, they might be accepting erroneous assumptions. Economic theory and research argues strongly that one ought not assume that goods and services can be distributed however one likes. Neither should one expect that rising prices will fail to change consumption and production.

If Present Trends Continue...

Some materials used in global education contain projections that explicitly assume that present trends will continue. This assumption produces startling copy, but seldom accurate forecasts, partly because conditions change as people alter their behavior. The arguments presented above demonstrate that economic incentives constitute a powerful reason why some current trends will not go on as before. And yet, some global educators seem to accept uncritically trend lines that merely extend the past into the future. Whether or not economic incentives are relevant to a specific case, assuming the future to be a simple extension of the past is risky. A few examples illustrate the problem.

First, there is the question of when to begin the time period for one's projections. If one forecasts temperatures in the Midwest over the next ten years based on the temperature trends from January through August, one is led inevitably to conclude that the world will soon overheat. Second, one cannot ignore conditions that might systematically influence the trend under study. Predicting the health of the economy over the next two years based exclusively on the past five years ignores a host of variables that could confound the result. Ignoring the effects of incentives is another case in point. Third, there is the unexpected. In economic forecasting (not famous for its accuracy), even sophisticated mathematical models that attempt to account systematically for all the major relevant variables are undone by policy changes by the Congress or the Federal Reserve System. Finally, the further into the future the projection extends, the less likely it is to be accurate. Economists recognize that forecasts of economic performance beyond a few quarters are increasingly speculative.

Economists like to cite Thomas Malthus as the perfect example of assuming that present trends will continue. After all, it was the work of Malthus that led Thomas Carlyle to label economics as "the dismal science" since dealing with the Malthusian problem was dismal indeed. Recall that Malthus used historical data on the trend of population growth to predict that population grew at an exponential rate while data on the trend for the increase in food production grew at only an arithmetic rate. The resulting trend lines diverge at astonishing speed leading to dire predictions of continuous famine affecting nearly all of the world's population.

The Malthusian predictions did not come to pass, but the same techniques of simply extending trend lines are still being used by some people, perhaps to lend a sense of urgency to issues or policy positions about which they feel strongly. For instance, the The Global 2000 Report contains a graph projecting future

production and consumption of oil 1980, p. 176). It projects future oil consumption as exploding geometrically based on consumption growth from 1900-1975. Projected production is based on an estimate of the "total oil ultimately economically recoverable." At what price? The report does not say. It only concludes that the "rapidly growing gap" depicted is "an indication of the resource aspect of the world's commercial energy problem." For the reasons given earlier, this is simply nonsense. What it really indicates is why global educators should guard against accepting uncritically any predictions that contain the assumption that present trends will continue.

Conclusion

Economic educators recognize the importance of a global perspective, at least in part because the international sector has become more important over the past few decades. However, there are areas of disagreement with global educators. The application of economic principles calls into question some assumptions that appear to be common among members of the global education movement. That these assumptions might be erroneous raises questions about the instructional strategies and materials in use in some social studies classes.

Economic analysis of these assumptions also strongly indicates the need for a significant economics component in global education. In such areas as world economic growth and development and resource allocation, instruction in economics could greatly enhance student understanding.

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